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GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191				SHEVIN, MARK L
ART UNIT		PAPER NUMBER		
1793				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/578,298	YONEHANA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	MARK L. SHEVIN	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 09 January 2009.

2a) This action is **FINAL**.                  2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-9 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>06/30/2009</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____ .

## **DETAILED ACTION**

### ***Status of Claims***

1. Claims 1-9, filed August 20<sup>th</sup>, 2009, are currently under examination. Claims 1-8 are amended and claim 9 is new.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted June 30<sup>th</sup>, 2009 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner. Please refer to applicants' copy of the 1449 form submitted herewith.

### ***Status of Previous Objections***

3. The previous objections to claims 1-8 stated in the previous Office action dated May 21st, 2009 have been withdrawn in view of the amendments to claims 1-8.

### ***Status of Previous Rejections***

4. The previous rejection of claims 1-8 under 35 U.S.C. 112, 2<sup>nd</sup> paragraph in the Office action dated May 21<sup>st</sup>, 2009 has been maintained.

**Claims 1-8** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claims 1 and 4 reference "super-micro" powder however "super-micro" provides no guidance to a reader of such a claim as to what exactly is being produced by the claimed material and what kind of prior art

processes read on "super-micro". Furthermore, there is no definition in the specification as to the term. For the purposes of examination, absolutely any and all size particles produced by a prior art process are deemed to read on "super-micro" in the absence of any explicit size limitation.

5. The previous rejections of claims 1 and 2 under 35 U.S.C. 103(a) over Oda (US 6,432,161) in the Office action dated May 21<sup>st</sup>, 2009 have been withdrawn in view of Applicants' remarks at p. 12, para 1 to p. 13, para 2.

***Claim Rejections - 35 USC § 102***

6. Claims 1-2, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by US '356 (US 2,642,356) or US '357 (US 2,642,357).

With respect to the amendments to claim 1, with respect to "a method of producing super-micro powder of a pure metal..." US '356 discloses a process for producing very finely divided nickel (col. 1, lines 8-9) by reacting nickel chloride ( $\text{NiCl}_2$ ) with heated hydrogen gas (claim 2) in the range of 475 – 650 °F (246-343 °C) in the presence of pure metallic nickel (claim 1).

Example 1 of US '356 (col. 2, line 55 to col. 3, line 32) discloses thoroughly mixing finely divided metallic nickel with anhydrous nickel chloride ( $\text{NiCl}_2$ ) and placing the mixture in a porcelain boat, heating to 500 °F in a furnace, and passing hydrogen gas over the boat, thus substantially completely reducing the nickel chloride to metallic nickel and forming a final powder of 99.3% metallic nickel.

With respect to the step of "heating a starting material forming metal chloride vapor,...", the metal chloride material of US '356 is heated by contact with contact with the heated hydrogen gas and one would reasonably expect the heated metal chloride to have at least some minimal level of vapor (steam) given the heating by contact with heated hydrogen gas. Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

The limitation of "...the starting material containing metal chloride and elemental metal of the metal contained in the metal chloride,..." is met by both US '356 in that US '356 reacts nickel chloride ( $\text{NiCl}_2$ ) with heated hydrogen gas (claim 2) in the range of 475 – 650 °F (246-343 °C) in the presence of pure metallic nickel (claim 1) that was "thoroughly mixed in with the nickel chloride prior to placing of this mixed material in the furnace" (col. 3, line 5-10).

The limitation of "...and reducing the metal chloride vapor with hydrogen gas to produce the super micro powder of a pure metal...", US '356 discloses passing hydrogen gas over a heated boat containing nickel chloride and metallic nickel, thus substantially completely reducing the nickel chloride to metallic nickel and forming a

final powder of 99.3% metallic nickel. US '356 discloses that "finely divided metallic nickel" is formed (col 1, line 1-8), which reads on super-micro as there is no quantitative size guidance provided.

US '357:

With respect to "a method of producing super-micro powder of a pure metal..." US '357 discloses a process for producing very finely divided metallic cobalt (col. 1, lines 1-8) by reacting dry solid cobalt chloride ( $\text{CoCl}_2$  – claim 1) with heated hydrogen gas (claim 2) in the range of 510 – 690 °F (266 - 366°C) in the presence of pure metallic cobalt (claim 1).

Example 3 of US '357 (col. 3, lines 23-38) discloses thoroughly mixing anhydrous cobalt chloride with finely divided metallic cobalt, heating to 500 °F in a furnace, and passing hydrogen gas over the boat, which initiates reduction as evidenced by the presence of HCl in the gas effluent.

With respect to the step of "heating a starting material forming metal chloride vapor,...", the metal chloride material of US '357 is heated by contact with contact with the heated hydrogen gas and one would reasonably expect the heated metal chloride to have at least some minimal level of vapor given the heating by contact with heated hydrogen gas.

The limitation of "...the starting material containing metal chloride and elemental metal of the metal contained in the metal chloride,..." is met by US '357 in that US '357 reacts cobalt chloride ( $\text{CoCl}_2$ ) with heated hydrogen gas (claim 1) in the range of 510 –

690 °F (266 - 366°C) in the presence of pure metallic cobalt (claim 1) that was “added and thoroughly admixed ...” (col. 3, lines 24-26).

The limitation of “...and reducing the metal chloride vapor with hydrogen gas to produce the super micro powder of a pure metal...”, US ‘357 discloses passing heated hydrogen gas over a mixture of cobalt chloride and metallic cobalt, and forming “finely divided metallic cobalt” (col. 1, lines 1-8), which reads on super-micro as there is no quantitative size guidance provided.

Regarding claim 2, US ‘356 discloses  $\text{NiCl}_2$ , wherein the Ni has a valence of two and US ‘357 discloses  $\text{CoCl}_2$ , wherein Co has a valence of two. With respect to the amendment to claim 2, these amendments do not change the scope of the claim as the applied art still has metal chlorides of at least two (“two or larger” reads on “at least two”).

Regarding claim 9, US ‘356 discloses that “fine divided metallic nickel was added to and thoroughly mixed in with the nickel chloride prior to placing of this mixed material in the furnace” (col. 3, line 5-10) and US ‘357 discloses that finely divided metallic cobalt was added and thoroughly mixed with anhydrous cobalt chloride (col. 3, lines 23-26).

7. Claims 3 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by **US ‘356** (US 2,642,356).

In addition to what was discussed above, US ‘356 discloses  $\text{NiCl}_2$  as the metal chloride.

8. Claims 4-6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by US '193 (US 2,754,193) or US '195 (US 2,754,195).

US '193:

US '193 discloses a process of making copper-iron alloy powder (col. 1, lines 15-20 and col. 2, lines 20-25) by mixing copper chloride ( $\text{CuCl}_2$  or  $\text{CuCl}$  - col. 3, lines 1-30) together with metallic iron powder (col. 3, lines 45-70), heating the mixed starting materials to between 1000 °F and 1800 °F and passing a reducing gas containing hydrogen over the mixed powders of the starting materials (col. 2, lines 18-31). Example I, col. 5, lines 5-41 best embodies the process of US '193. US '193 disclosed the production of an alloy of copper and iron alone (col. 4, lines 25-30).

US '195

US '195 discloses a process of making copper-iron alloy powder (col. 1, lines 14-19 and col. 2, lines 5-20) by mixing iron chloride ( $\text{FeCl}_3$  or  $\text{FeCl}_2$  – col. 2, lines 50-63; col. 3, lines 16-42) with metallic copper powder (col. 3, lines 1-15), heating the mixed starting materials to between 1000 °F and 1800 °F and passing a reducing gas containing hydrogen over the mixed powders of the starting materials (col. 2, lines 20-50). Example I, col. 4, lines 45-75 best embodies the process of US '195.

Regarding claim 4. With respect to the amendments to claim 4, the 102(b) rejections are rewritten below to better map to the amended language:

With respect to "a method of producing super-micro powder of an alloy..." US '193 discloses a process of making copper-iron alloy (col. 4, lines 25-30) powder (col. 1, lines 15-20 and col. 2, lines 20-25) and US '195 similarly discloses a process of making

copper-iron alloy powder (col. 1, lines 14-19 and col. 2, lines 5-20). Both processes produce a “super-micro powder” as there is no quantitative size guidance provided by the instant claims.

With respect to “heating a starting material forming metal chloride vapor, the starting material containing metal chloride and elemental metal as alloying components” and “reducing the resulting metal chloride vapor with hydrogen gas to form the super-micro powder of an alloy”,

US ‘193 discloses mixing copper chloride ( $\text{CuCl}_2$  or  $\text{CuCl}$  - col. 3, lines 1-30) together with metallic iron powder (col. 3, lines 45-70), heating the mixed starting materials to between 1000 °F and 1800 °F and passing a reducing gas containing hydrogen over the mixed powders of the starting materials (col. 2, lines 18-31). Example I, col. 5, lines 5-41 best embodies the process of US ‘193. US ‘193 disclosed the production of an alloy of copper and iron alone (col. 4, lines 25-30).

US ‘195 discloses mixing iron chloride ( $\text{FeCl}_3$  or  $\text{FeCl}_2$  – col. 2, lines 50-63; col. 3, lines 16-42) with metallic copper powder (col. 3, lines 1-15) and heating the mixed starting materials to between 1000 °F and 1800 °F and passing a reducing gas containing hydrogen over the mixed powders of the starting materials (col. 2, lines 20-50). Example I, col. 4, lines 45-75 best embodies the process of US ‘195.

From the Examples of both patents, the metal chloride forms one of the alloying elements and the metallic powder the other to give the resultant Cu-Fe alloy powder.

Although neither of US ‘193 or US ‘195 specifically discloses that “metal chloride vapor” is formed, one would reasonably expect the heated metal chlorides of US ‘193

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and US '195 to have at least some minimal level of vapor given the high temperatures to which they were heated.

Regarding claim 5, US '193 discloses the use of CuCl<sub>2</sub> as the metal chloride (col. 3, lines 1-30) while US '195 discloses the use of FeCl<sub>3</sub> as the metal chloride (col. 2, lines 50-63; col. 3, lines 16-42). With respect to the amendment to claim 5, these changes merely rewrite the metal chlorides by molecular formula and do not change the scope of the claim.

Regarding claims 6 and 8, US '193 discloses the elemental metal as being iron (col. 3, lines 45-70) while US '195 discloses the elemental metal as being copper (col. 3, lines 1-15). With respect to the amendments to claims 6 and 8, these amendments do not change the scope of the claims as the elements of Cu, Fe, Ni, Co, Ag, W, Mo, Nb, Ta, Cr, V, Ge, and Sb were all present previously.

### ***Claim Rejections - 35 USC § 103***

9. Claims 1-3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Otsuka** (US 4,810,285) in view of **Richardson** (H.W. Richardson, "Copper Compounds", in Ullmann's Encyclopedia of Industrial Chemistry, Wiley-VCH Verlag, June 15th, 2000, p. 1-31) and **US '193** (US 2,754,193).

#### Otsuka:

Otsuka discloses a process for preparing spherical fine (0.1 micron or more) or superfine (less than 0.1 micron) copper powder by reducing cuprous chloride (CuCl)

vapor with hydrogen gas at a temperature of 900 to 1150 °C (col. 2, lines 5-25). The melting point of CuCl is 425 °C and as the reaction of CuCl and hydrogen is carried out at 900 to 1150 °C, the reaction is in vapor phase (col. 2, lines 58-68).

Per Example 1 at col. 3, lines 49-65, the cuprous chloride (CuCl) vapor was formed by heating metal chloride or cuprous chloride in a quartz boat to the point of evaporation.

Otsuka, however, does not teach the use of a metal chloride with a valence of two or larger such as CuCl<sub>2</sub>, FeCl<sub>3</sub>, or NiCl<sub>2</sub> nor the starting material as being mixed with an elemental metal of the metal contained in the metal chloride (in this case, elemental copper).

Richardson:

Richardson discloses that copper (II) chloride (CuCl<sub>2</sub>) is reduced to copper (I) chloride (CuCl) by reacting elemental Cu with CuCl<sub>2</sub> (p. 8, col. 2, para 1 and 2) with 22 kJ/mole of energy released.

Regarding claim 1, With respect to the amendments to claim 1, the previous rejections are rewritten below to better map with the amended limitations:

With respect to “a method of producing super-micro powder of an alloy...”, Otsuka discloses a process for preparing spherical fine (0.1 micron or more) or superfine (less than 0.1 micron) copper powder which reads on “super-micro powder” as no guidance as to the size of the powder is provided by the instant claims.

With respect to “heating a starting material forming metal chloride vapor, the starting material containing metal chloride and elemental metal as alloying components”

and “reducing the resulting metal chloride vapor with hydrogen gas to form the super-micro powder of an alloy”, Otsuka heats a metal chloride starting material of cuprous chloride ( $\text{CuCl}$ ) in a quartz boat to the point of evaporation to form a metal chloride vapor (vapor was formed by heating metal chloride of cuprous chloride in a quartz boat to the point of evaporation (Example 1 at col. 3, lines 49-65) and this  $\text{CuCl}$  vapor is reduced by contact with hydrogen gas (col. 3, lines 55-65 and col. 2, lines 5-25) to form fine copper powder (col. 3, lines 59-61). However, Otsuka does not teach that his metal chloride starting material is mixed with an elemental metal of the metal contained in the metal chloride (in this case, elemental copper powder is missing from the starting material).

It would have been obvious to one of ordinary skill in metal chloride reduction, at the time of the invention, to have modified the process of Otsuka to have mixed elemental copper powder with cupric chloride ( $\text{CuCl}_2$ ) instead of just using  $\text{CuCl}$  in the quartz boat because US '193 teaches that in the reduction of cupric chloride ( $\text{CuCl}_2$ ), cuprous chloride ( $\text{CuCl}$ ) is formed as an intermediate (col. 3, lines 20-30) in the context of reduction in the presence of an elemental metal other than the chloride while Richardson discloses that  $\text{CuCl}_2$  is clearly reduced to  $\text{CuCl}$  by contact with elemental copper, indicating that the intermediate of US '193 is not unique to reduction by an elemental metal of a different type. Otsuka further teaches that reduction of  $\text{CuCl}$  with hydrogen yields fine copper powder which reads on the super-micro powder of claim 1. Motivation to use an elemental metal constituting the metal chloride along with copper (II) chloride comes from the disclosure of US '193 that implicitly teaches that the

elemental metal is combined with the metal of the metal chloride in the final product, thus if one desired pure copper powder as in Otsuka, one would choose copper as the elemental metal for reaction with copper chloride using elemental copper.

Regarding claims 2, 3, and 7, it would have been obvious to one of ordinary skill in metal chloride reduction, at the time of the invention, to use cupric chloride ( $\text{CuCl}_2$ ) as the metal chloride as US '193 taught that cupric chloride and cuprous chloride are basically equivalent for the end purpose of forming metal powders as cupric chloride is reduced to cuprous chloride as an intermediate. Thus one would be motivated to substitute the cuprous chloride of Otsuka with cupric chloride for the reasons as taught by US '193.

With respect to the amendments to claims 2, 3, and 7, the prior art still reads on these claims because the prior art teaches the use of  $\text{CuCl}_2$ , which is a member of the Markush groups of claims 3 and 7 and has a valence of two, thus still reading on claim 2.

***Response to Applicant's Arguments:***

**10.** Applicant's arguments filed August 20<sup>th</sup>, 2009 have been fully considered but they are not persuasive.

Applicants assert (p. 7, para 3) that one of ordinary skill in the art would readily understand the metes and bounds of the claims from p. 1, para 0002 of the specification giving an example of a super-micro powder with a size of 0.4  $\mu\text{m}$ .

In response, although Applicants' are their own lexicographers and can define in the claims what they regard as their invention essentially in whatever terms they choose, any special meaning assigned to a term is clearly set forth in the specification (MPEP 2173.01). The meaning of every term used in a claim should be apparent from the prior art or from the specification and drawings at the time the application is filed. Applicants need not confine themselves to the terminology used in the prior art, but are required to make clear and precise the terms that are used to define the invention whereby the metes and bounds of the claimed invention can be ascertained.

The specification (p. 1, para 2) references a particle size of "not more than 0.4  $\mu\text{m}$ " in the context of making a good paste, and thus does not define the size range of super-micro powders (which can be used for much more than pastes per para 0002).

Applicants can remedy the 112 2<sup>nd</sup>, indefiniteness problem by amending claims 1 and 4 to require the super-micro powder to be not more than 0.4  $\mu\text{m}$  and to include a standard of measurement (e.g. radius or diameter) consonant with the instant specification.

Applicants assert (p. 9. para 2 to p. 10, para 3) that US '356 and US '357 do not disclose reducing metal chloride vapor, but reducing a solid metal chloride.

In response, the Examiner contends that the heated hydrogen gas would be reasonably expect to have produced at least some degree of metal chloride vapor in passing over the metal chloride and metallic element starting materials of US '356 and US '357. "When the PTO shows a sound basis for believing that the products of the

applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Applicants assert (p. 10, para 4 to p. 12, para 1) that US '193 and US '195 do not anticipate claims 4-6 and 8 because no metal chloride vapor is formed and the metal chloride is only reduced in solid form and no alloy powder of Cu-Fe is formed, only a simple mixture of Cu and Fe powders.

Although neither of US '193 or US '195 specifically discloses that "metal chloride vapor" is formed, one would reasonably expect the heated metal chlorides of US '193 and US '195 to have at least some minimal level of vapor given the high temperatures to which they were heated. Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Applicants' remarks regarding Oda (p. 12, para 2 to p. 13, para 2) are moot in view of the withdrawal of these rejections.

Applicants assert (p. 13, para 4 to p. 4 to p. 15, para 2) that one of ordinary skill in the art would not have combined Otsuka, Richardson, and US '193 in view of there diverse disclosures.

In response, the motivation to combine the three references was explained above and Applicants have not shown that the references are so diverse as to constitute, for example, nonanalogous arts.

Applicants assert (p. 15, para 3) that Richardson discloses obtaining CuCl under the fused state by reacting Cu and Cl<sub>2</sub> with the use of shaft furnace, but does not disclose a technique of obtaining CuCl with the use of vapor phase chemical reacting.

In response, the instant claims do not require reducing CuCl<sub>2</sub> to CuCl in the vapor phase, only that a starting material of a metal chloride and elemental metal of the metal contained in the metal chloride are heated together to form a metal chloride. Richardson teaches that CuCl<sub>2</sub> is reduced to CuCl by contact with CuCl, and the phase of the reaction product is moot in that the CuCl produced would be in vapor phase according to Otsuka's disclosure.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

-- **Claims 1-9 are finally rejected**  
-- **No claims are allowed**

The rejections above rely on the references for all the teachings expressed in the texts of the references and/or one of ordinary skill in the metallurgical art would have reasonably understood or implied from the texts of the references. To emphasize certain aspects of the prior art, only specific portions of the texts have been pointed out. Each reference as a whole should be reviewed in responding to the rejection, since other sections of the same reference and/or various combinations of the cited references may be relied on in future rejections in view of amendments.

All recited limitations in the instant claims have been met by the rejections as set forth above. Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. § 1.121; 37 C.F.R. Part §41.37 (c)(1)(v); MPEP §714.02; and MPEP §2411.01(B).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark L. Shevin whose telephone number is (571) 270-3588 and fax number is (571) 270-4588. The examiner can normally be reached on Monday - Friday, 8:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy M. King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

*/Mark L. Shevin/  
Examiner, Art Unit 1793*

November 9th, 2009  
10-578,298

*/George Wyszomierski/  
Primary Examiner  
Art Unit 1793*